

COMMERCIAL SPACE TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION
Fiscal Year 2004 Business Plan



800 Independence Avenue, SW
Washington, DC 20591

www.faa.gov



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INTRODUCTION

The Federal Aviation Administration (FAA) Associate Administrator for Commercial Space Transportation (AST) is responsible for developing and enforcing regulations for commercial space launch operations to ensure that commercial space launch activities do not endanger the uninvolved public. Additionally, the Secretary of Transportation is required, by statute, to encourage, promote, and support development of the U. S. commercial space transportation industry. This responsibility has been delegated to AST.

AST's business plan details strategies and associated initiatives supporting achievement of the FAA Flight Plan goals of Increased Safety and Organizational Excellence. Specifically, in support of the Increased Safety goal, AST will strive to prevent casualties to the uninvolved public and damage to uninvolved property during commercial space launch or reentry activities through development and enforcement of commercial space transportation regulations, safety evaluations of proposed licensed

activities, and monitoring and inspection of launch safety related activities. Further, AST will support achievement of the FAA Flight Plan Organizational Excellence goal, through human capital planning, workplace improvement, and employee training and development. Additionally, this plan includes an appendix that addresses AST's congressionally mandated responsibilities to "*promote, encourage, and facilitate the growth of the U.S. commercial space transportation sector.*"

AST's FY 2004 measures of success include the following:

- Continuation of the excellent safety record compiled by the commercial space launch industry
- Timely achievement of schedule milestones
- Customer satisfaction, as measured by feedback from industry
- Employee satisfaction, as measured by annual surveys and personal feedback sessions
- Annual evaluation of employee accomplishments

AST goals associated with this responsibility do not directly link to any of the goals contained in the FAA Flight Plan.

INCREASED SAFETY



OVERVIEW

AST contributes to the strategic goal of Increased Safety by developing regulations for commercial space launch sites and launch and reentry operations; by evaluating proposed launch and launch site operations and issuing licenses for them; and by monitoring and inspecting commercial space launch activities.

This Office contributes to the following strategic Safety Objectives outlined in the FAA 2004-2008 Flight Plan:

SAFETY OBJECTIVES

1. Ensure safety of commercial space launches.

A more detailed description of each Objective, including its supporting Initiatives and Performance Targets follows.

FLIGHT PLAN OBJECTIVE 1: ENSURE SAFETY OF COMMERCIAL SPACE LAUNCHES

AST is the FAA lead to ensure safety of commercial space transportation launches. Specifically, AST is responsible for

ensuring that the public is protected during a FAA licensed launch or reentry activity. To achieve this objective, AST will pursue the following strategies:

Pursue rulemaking only to the extent necessary to ensure protection of the public and uninjured property,

Review and approve safety critical systems, personnel, and processes for expendable and reusable launch vehicle operations,

Ensure proposed launch activities comply with National Environmental Policy Act (NEPA) requirements,

Conduct thorough and comprehensive safety inspections of all launch and launch site operations, and

Monitor and enforce launch/reentry license terms and conditions

FY04 PERFORMANCE TARGETS

- Ensure zero fatalities or serious injuries to the uninjured public during commercial space launch or reentry activities.
- Prevent any significant damage to property that is not associated with the flight during commercial space launch or reentry activities.

Flight Plan Initiative 1. (AST Leads)

Issue a licensing and safety requirements rule for launches from non-federal and federal launch sites

AST Activity

- A. AST will issue a second supplemental notice of proposed rulemaking (NPRM) to better reflect current launch safety practices at the federal ranges; revise the NPRM requirements not addressed in the SNPRM; and reduce the gap in costs estimates between the FAA and the commercial launch industry.

Performance Target:

- 100% linkage between requirements in the proposed final rule and corresponding USAF requirements contained in Air Force Manual 91-710 by December 31, 2003.
- 100% removal of ambiguities in the section-by-section analysis and regulation text of the proposed rule by December 31, 2003.

- Complete assessment of cost impact estimated by industry for rule implementation by March 31, 2003.

Flight Plan Initiative 2. (AST Leads)

Issue guidance on acceptable ways to verify safety methods for Reusable Launch Vehicles (RLVs).

AST Activity

- A. As part of the launch licensing and safety evaluation processes, AST will ensure that applicants utilize an acceptable approach and methodology to verify and validate the safe operation of RLVs. This guidance will cover the expected scope, content, and format of safety verification programs to be described in RLV launch applications

Performance Target: Publish guidance on acceptable safety verification methods for RLVs

Due Date: December 1, 2003

Flight Plan Initiative 3. (AST Leads)

Improve methods for determining likely launch vehicle failure rates and resulting casualties

AST Activity

- A. AST will develop and initiate a comprehensive plan to facilitate improved methods to determine, in a coherent and efficient manner, if flight safety analysis submittals for a proposed launch or launch site can meet current regulations.

Performance Target:

- Make available to potential license applicants an automated tool to define flight corridors and estimate expected casualties for orbital launch vehicles

Due Date: June 30, 2004

- Publish guidelines on estimating the survivability of the aero-thermal structural material of a RLV during re-entry.

Due Date: September 30, 2004

- Complete development of probability of failure model to aid license applicants in predicting the probability of success of new launch vehicles.

Due Date: August 30, 2004

- *Complete development of a computational tool to determine the probability of debris impact on aircraft from an ELV launch.*

Due Date: September 30, 2004

Flight Plan Initiative 4. (AST Leads)

Complete a mishap investigation agreement with the United States Air Force and the NTSB to ensure that the commercial space community identifies and understands factors that may lead to launch accidents.

AST Activity

- A. AST will partner with the Air Force and the National Transportation Safety Board (NTSB) to conduct investigations of mishaps for launches from federal ranges

Performance Target: Completion of an interagency MOA on mishap investigations for launch

Due Date: September 30, 2004

AST-Specific Initiative 1.

Issue launch and reentry licenses

AST Activity

- A. U.S. citizens are required to obtain licenses to conduct launch/reentry and launch/reentry site operations. In order to make licensing determinations, AST will consult with potential license applicants and evaluate license applications for commercial space launch activities to ensure compliance with existing regulations and best practices.

Performance Target:

- *Issue a license determination to applicants within 180 days of receipt of a substantially complete license application 100% of the time.*

- *Complete the EIS for Mojave Spaceport*

Due Date: December 31, 2003

- *Complete review of the Kodiak Launch Complex Environmental Impact Statement (EIS) for the Missile Defense Agency*

Due Date: June 30, 2004

- *Complete the EIS for the Oklahoma Spaceport*

Due Date: September 30, 2004

- *Complete Environmental Assessment for Armadillo Aerospace*

Due Date: September 30, 2004

AST-Specific Initiative 2.

Issue a Small-Scale Rocket NPRM

AST Activity

- A. The NPRM will propose amendments to the FAA's regulations to codify safety standards and other requirements for the launch of small-scale unguided model rockets.

Performance Target: Publish NPRM

Due Date: June 30, 2004.

AST-Specific Initiative 3.

Issue guidance on suborbital definitions

AST Activity

- A. The AST will issue guidance on the definition of a sub-orbital launch to help clarify the appropriate regulatory regimes for piloted, aircraft-like suborbital RLVs.

Performance Target: Issuance of guideline on definitions of suborbital launch and suborbital trajectory.

Due Date: November 1, 2003

AST-Specific Initiative 4.

Conduct safety inspections of FAA licensed launch/reentry activities

AST Activity

- A. AST will monitor licensed launches for compliance with FAA regulations, safety practices, environmental impacts, and other terms of license approval. This involves visitation and inspection of launch and launch site operators to ensure license compliance.

Performance Target: FAA safety monitor(s) conduct safety inspections at every (100%) licensed launch

AST-Specific Initiative 5.

Conduct commercial space transportation safety related research.

AST Activity

- A. AST will conduct research to address public safety related issues

Performance Target:

- *Complete report on the capabilities of current orbital debris models to accurately predict the probability of a safe RLV reentry*

Due Date: August 1, 2004

- *Complete White Paper on human space flight safety*

Due Date: August 30, 2004

- *Publish guidance document on RLV operations and maintenance procedures*

Due Date: September 30, 2004

- *Complete white paper examining the feasibility of a establishing a categorical exclusion for certain categories of launch operations.*

Due Date: September 30, 2004

- *Complete report on Non-Traditional Flight Safety Systems and Integrated Vehicle Health Management*

Due Date: September 30, 2004

- *Complete report on alternative methodologies for satisfying expected casualty criterion for launch licensing.*

Due Date: September 30, 2004

- *Complete report on acceptable methods to mitigate radio frequency communication blackout periods for reentering RLVs.*

Due Date: September 30, 2004

AST-Specific Initiative 6.

Partner with U.S. Air Force to ensure launch safety at federal ranges.

AST Activity

- A. AST will continue execution of the MOA on Safety and Range Operations between the FAA and Air Force. The FAA Commercial Space Transportation Safety Office located at Patrick Air Force base is in place to ensure continuity of coordination on critical commercial launch safety related issues at the federal ranges.

Performance Target:

- *Establish an agreement with the 30th Space Wing (Air Force) for Launch Safety Support at Vandenberg Air Force Base*

Due Date: October 30, 2003

- *Establish an agreement between the FAA and Air Force on Roles and Responsibilities for Relief from Launch Rule Requirements*

Due Date: December 31, 2003

- *Publish Revised Federal Launch Range Baseline Assessment*

Due Date: December 31, 2003

ORGANIZATIONAL EXCELLENCE



OVERVIEW

AST will support achievement of FAA Flight Plan Organizational Excellence strategic goals by managing for results that support achievement of AST's mission and vision, which align with the strategic objectives of the FAA. Specifically, AST supports the FAA Flight Plan goals in organizational excellence with the following flight plan and AST-specific objectives:

This Office contributes to the following strategic Organizational Excellence Objectives outlined in the FAA 2004-2008 Flight Plan:

ORGANIZATIONAL EXCELLENCE OBJECTIVES

1. Make the organization more effective with stronger leadership, increased commitment of individual workers to fulfill organization-wide goals, and a better prepared, better trained, diverse workforce.
2. Control costs while delivering quality customer service.
3. Make decisions based on reliable data to improve our overall performance and customer satisfaction.

A more detailed description of each Objective, including its supporting Initiatives and Performance Targets follows.

FLIGHT PLAN OBJECTIVE 1: MAKE THE ORGANIZATION MORE EFFECTIVE WITH STRONGER LEADERSHIP, INCREASED COMMITMENT OF INDIVIDUAL WORKERS TO FULFILL ORGANIZATION-WIDE GOALS, AND A BETTER PREPARED, BETTER TRAINED, DIVERSE WORKFORCE.

AST views strengthening its workforce as a mission critical factor supporting achievement of organizational excellence. AST is a support organization for this FAA Flight Plan objective. AST intends to support this objective by executing the following strategies:

- Focus leadership and management development to achieve performance based outcomes,
- Focus and inspire AST staff to support achievement of organizational goals, and
- Build and maintain a diverse, highly skilled workforce.

FY04 PERFORMANCE TARGETS

- Directly relate 80% of all employee performance plans to FAA strategic goals and their organization's performance plans.
- Reduce the time it takes to hire mission critical positions by 3% over FY2003 baseline.

Flight Plan Initiative 1. (AST Supports)

Implement an executive development program.

AST Activity

- A AST will pursue an active program of executive professional development/training. The training program is implemented through individual development plans. AST's top executives will help guide corporate leadership of development policies, processes, and programs and will hold their subordinate managers accountable for implementation. They will set an example by personally engaging in ongoing learning activities and will ensure that subordinate managers do likewise. AST managers and executives will serve as mentors, presenters and advisors in executive development activities.

Performance Target: All (100%) AST executives enroll in and complete 2 executive training/development activities.

Flight Plan Initiative 2. (AST Supports)

Put in place a management workforce planning and development program.

AST Activity

- A AST will pursue an active program of management training. The training program is implemented through individual development plans. AST executives will help guide corporate leadership development policies, processes, and programs and will hold their subordinate managers accountable for implementation. They will set an example by personally engaging in ongoing learning activities and will ensure that subordinate managers do likewise. AST managers and executives will serve as mentors, presenters, and advisors in management development activities.

Performance Target: All (100%) AST managers enroll in and complete 2 professional development activities including one activity focused on performance management.

Flight Plan Initiative 3. (AST Supports)

Undertake a timely and effective approach to conflict management.

AST Activity

- A Pending guidance regarding specific requirements, we commit to supporting the accomplishment of this corporate initiative." Support may include providing resources to develop, sustain and expand the Early Dispute Resolution Center in order to insure the success of the initiative.

Performance Target: 100% compliance with conflict resolution guidance.

Flight Plan Initiative 4. (AST Supports)

Implement the new Performance Management System for all employees.

AST Activity

- A AST uses the latest Performance Management System for all employees. For employees not yet under PMS, AST will identify specific steps to resolve impediments and begin implementation, including training for employees and managers.

Performance Target: 100% compliance with all mandatory elements of the Performance Management System.

Flight Plan Initiative 5. (AST Supports)

Directly link all employee performance plans to FAA strategic goals and line of business and staff office performance plans.

AST Activity

A AST will strongly emphasize linkage of individual performance to organizational goals. AST will utilize performance management tools to monitor individual performance and progress towards achieving organizational goals. AST will track the percentage of its employees with performance plans in place, and the percentage of performance plans that are directly linked to agency strategic goals and organizational performance plans.

Performance Target: 100% of AST employee performance plans include objectives that link to AST and FAA goals.

Flight Plan Initiative 6. (AST Supports)

Undertake and sustain agency human capital planning and measurement processes.

AST Activity

A AST has created a Human Capital Plan, which it will implement in FY 2004 to support FAA human capital initiatives. AST executives will participate on the FAA Human Capital Board to provide oversight for the implementation of the FAA Human Capital Plan and leadership for the strategic management of the agency workforce. They will ensure a corporate and integrated focus for FAA human capital planning, make corporate human capital investment decisions to meet agency goals, and address alignment of human capital solutions with competitive sourcing, and e-government PMA requirements. AST-1 will establish and resource a Human Capital Planning Team to develop and implement LOB workforce/human capital plan aligned with our business plan, budget process, and the FAA Human Capital Plan. AST executives and managers will communicate AST Human Capital Plan goals and actions to our workforce. AST will establish a Human Capital Planning Council comprised of executives/senior managers to set the strategic business direction, guide the analysis of our LOB workforce requirements, and ensure the effective implementation of human capital solutions to achieve our mission results. AST is committed to analyzing its business drivers and human capital

challenges to ensure its workforce is strategically aligned with its business.

Performance Target:

- *Reduce staff turnover rate to below or equal to the national average for federal employment.*
- *Maintain employment levels of special emphasis groups to that equal or higher than civilian labor force rates.*

Flight Plan Initiative 7. (AST Supports)

Put in place a corporate and employee training and development program.

AST Activity

A The AST Training program includes development of in-house courses to meet unique AST needs, as well as activities to leverage partnerships with other FAA organizations, federal agencies, and academia to provide a full range of technical and professional training resources. AST will participate in the design and development of a corporate employee development program and leverage our existing programs and systems in support of this strategic objective.

Performance Target:

- *Complete the development of 3 AST in house courses by August 31, 2004.*
- *Accomplish 2 training development activities at NASA and Air Force launch ranges for FAA/AST commercial space transportation safety inspectors by Augusts 31, 2004.*
- *Achieve a quality assessment grade of "very effective" for the AST Training Program in FY04.*
- *20% or more of AST technical staff advance to a higher training tier in FY04.*
- *75% AST staff enrollment in the AST Training Program in FY04.*

Flight Plan Initiative 8. (AST Supports)

Implement corporate recruitment initiatives.

AST Activity

A AST will support this recruitment initiative by actively recruiting and retaining both "seasoned" and "fresh out" talent to support AST mission responsibilities (i.e. licensing, systems engineering, space systems development). AST will aggressively recruit under-represented groups in support of corporate recruitment initiatives.

Performance Target:

- *Achieve an end of year staff level of 95% authorized.*
- *Plan and conduct at least 4 focused recruitment activities including recruitment activities at Historically Black Colleges and Universities and/or other minority institutions.*

FLIGHT PLAN OBJECTIVE 2: CONTROL COSTS WHILE DELIVERING QUALITY CUSTOMER SERVICE.

AST is a support organization for this FAA Flight Plan objective.

FY04 PERFORMANCE TARGETS

- Secure 10% of the unfunded portion of the strategic plan through budget requests, reprioritization, and cost savings.
- Complete the closeout of 100% (FY2001 baseline) of cost reimbursable contracts by end of FY2004 and maintain timely closure of future contracts.

Flight Plan Initiative 1. (AST Supports)

Annually review our customers' requirements to better align products and services.

AST Activity

A AST will meet semiannually with the Commercial Space Transportation Advisory Committee (COMSTAC) in addition to holding monthly meetings with the major commercial space transportation companies in support of this flight plan initiative.

Performance Target: Meet with industry customers twice during fiscal year to review requirements.

Flight Plan Initiative 2. (AST Supports)

Put in place an agency-wide cost control program using CAS and LDR, including: 1) an executive level review process, 2) Identification of cross organizational initiatives focused on controlling operations costs starting with information technology (IT) expenditures, and 3) a program to create initiatives for FAA organizations to identify and implement costs savings initiatives.

AST Activity

A In accordance with agency guidance, AST will fully implement CAS and LDR and accomplish all states objectives for this initiative.

Performance Target: Use LDR reports to compare beginning of year labor projections with actual data at least three times before Aug 31, 2004.

FLIGHT PLAN OBJECTIVE 3: MAKE DECISIONS BASED ON RELIABLE DATA TO IMPROVE OUR OVERALL PERFORMANCE AND CUSTOMER SATISFACTION.

AST is a support organization for this FAA Flight Plan objective.

FY04 PERFORMANCE TARGETS

- Achieve 80% of the designated milestones and maintain 80% of critical program costs within 10% of the total as published in the CIP.
- Achieve 90% of all performance targets in the Flight Plan. Achieve 30 or more of the 33 performance targets in FY 2004.
- Increase customer satisfaction scores on the American Customer Satisfaction Index to 63.
- Achieve 90% of the milestones for the agency information security plan and maintain timely closure of future contracts.

Performance Target:

- *Conduct AST brainstorming sessions (March – April 04).*
- *Conduct intra-agency meeting(s) to determine measurement processes used by other FAA lines of business (April 04).*
- *Draft plan for Customer Service measurement (July 31, 2004)*

Flight Plan Initiative 1. (AST Supports)

Provide tools and training to all current executives and managers on using cost data (for example, CAS and LDR information) to make management decisions and reinforce the use of these skills as part of the agency-wide cost control program.

AST Activity

- A AST uses CAS, LDR, and Delphi tools as a financial dashboard to gauge the status of ongoing programs. AST will work with ABA to develop and schedule the training for managers and executives.

Performance Target: Labor hours are accounted for in LDR against projects and tasks will be verified against beginning of year projections 3 times.

Flight Plan Initiative 2. (AST Supports)

Develop a process to measure customer satisfaction for a wider range of customer segments.

AST Activity

- A AST will seek to improve delivery of quality products and services to its customers, which include the commercial space transportation industry, the Congress, other FAA organizations, and other federal agencies.

APPENDIX: SPACE TRANSPORTATION DEVELOPMENT

OVERVIEW

Space Transportation Development is included as an appendix to the FAA AST Business Plan. This very important work does not align with FAA Flight Plan Strategic goals; however, AST has a Congressional mandate to “promote, encourage, and facilitate the growth of the U. S. commercial space transportation sector”. This is an extremely important area of strategic focus for AST as the commercial launch industry continues to evolve and become more internationally competitive. A strong, viable commercial space transportation industry is an important contributor to the economic, national security, environmental, and foreign policy interests of the United States and therefore we include AST’s initiatives in this area.

AST-SPECIFIC OBJECTIVES

- Enhance U.S. launch industry ability to compete in the global commercial launch market
- Increase public awareness of commercial space transportation in the U.S.

AST-SPECIFIC OBJECTIVE 1: ENHANCE U.S. LAUNCH INDUSTRY ABILITY TO COMPETE IN THE GLOBAL COMMERCIAL LAUNCH MARKET.

AST intends to achieve this objective by executing the following strategies:

- Partner with the interagency community to develop policies and implement strategies to enhance U.S. launch industry international competitiveness
- Partner with industry to support U.S. launch industry international competitiveness

FY04 PERFORMANCE TARGETS

- 2% gain in U.S. industry share of internationally competed launches
- 1 new launch (operator) market entrant
- 1 new launch site operator in the U.S.

AST-Specific Initiative 1.

Space and Air Traffic Management System (SATMS)

AST Activity

- A AST will continue activities intended to integrate commercial space transportation operations efficiently into the National Airspace System

Performance Target:

- *Complete development of SATMS Outreach and Market Plan*

Due Date: December 1, 2003

- *Define Space Transition Corridor (STC) requirements to incorporate in RTCA Concept of Operations*

Due Date: June 1, 2004

- *Complete final reports for the Joint Planning Office National Aerospace Plan*

Due Date: September 1, 2004

AST-Specific Initiative 2.

Partner with the Aerospace States Association to develop a space commerce model

AST Activity

- A The space commerce model will assist government, industry, and U.S. citizens understand the business case for commercial space transportation, and be used as a tool to drive public and private investment in specific technology areas that will enable new space-related markets and applications.

Performance Target: Complete a white paper on four specific investment areas – vehicles, payloads, spaceports, and flight management.

Due Date: March 1, 2004

AST-SPECIFIC OBJECTIVE 2: INCREASE PUBLIC AWARENESS OF COMMERCIAL SPACE TRANSPORTATION IN THE U.S.

AST intends to achieve this objective through execution of the following strategies:

- Hosting public forums to discuss commercial space transportation trends, current issues and developments, and
- Disseminating information on commercial space transportation trends, activities and benefits.

FY04 PERFORMANCE TARGETS

- Host at least one public forum on commercial space transportation trends and issues
- Distribute all publications on schedule

AST-Specific Initiative 1.

Conduct Commercial Space Transportation Forecast Conference.

AST Activity

- A AST plans to conduct a conference to address trends in commercial space transportation, current issues, and future goals to advance commercial space transportation in the U.S.

Performance Target:

- 150 registered conference participants
- 75% of conference evaluation respondents indicating conference was useful in increasing public awareness of commercial space transportation

AST-Specific Initiative 2.

Produce and issue commercial space transportation publications

AST Activity

- A AST will publish reports, which will be made available to the public, on commercial space transportation trends, emerging markets, and technology developments.

Performance Target:

- Publish AST Launch Reports each quarter
 - Publish annual AST Year In Review report
- Due Date: February 1, 2004

- Publish annual Commercial Space Transportation Developments and Concepts report
Due Date: February 1, 2004
- Publish paper on Commercial Space Launch Economic Impact
Due Date: April 30, 2004
- Publish commercial launch market forecast report
Due Date: June 1, 2004
- Publish annual AST Fiscal Year Update report
Due Date: June 1, 2004
- Publish white paper on Suborbital Launch Demand in the U.S.
Due Date: September 30, 2004

AST-Specific Initiative 3.

Conduct AST Education Outreach

AST Activity

- A AST will conduct activities intended to educate children grades K-12 on the benefits of space and space transportation, and career opportunities in the commercial space transportation field.

Performance Target:

- Publish a AST Educational Brochure detailing AST's educational outreach project and activities.

Due Date: September 30, 2004

- Complete a memorandum of agreement with another government agency or industry to conduct educational outreach activities.

Due Date: September 30, 2004